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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/581,260

07/07/2006

Tae Ki Yoon

3416-101

1802

6449

7590

07/07/2009

ROTHWELL, FIGG, ERNST & MANBECK, P.C.

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WASHINGTON, DC 20005

EXAMINER

BERTOGLIO, VALARIE E

ART UNIT

PAPER NUMBER

1632

NOTIFICATION DATE

DELIVERY MODE

07/07/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/581,260	<b>Applicant(s)</b> YOON ET AL.	
	<b>Examiner</b> Valarie Bertoglio	<b>Art Unit</b> 1632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-6 and 8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-6 and 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/06/04/07</u> .   | 6) <input type="checkbox"/> Other: _____                          |

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### **DETAILED ACTION**

Applicant's election without traverse of Group I, claims 1-4 and 6-8 in the reply filed on 06/01/2009 is acknowledged. However, it is determined that there is no additional burden to search claim 5 along with the claims of Group I. Thus, the groups are hereby rejoined.

Claims 2 and 7 are cancelled. Claims 1,3-6 and 8 are pending. Claims 1,3-6 and 8 are under consideration.

### ***Claim Objections***

Claims and 8 are objected to because of the following informalities: The term "has" in line two should read "have".. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,3-6 and 8 are rejected under 35 U.S.C. 102(a) as being anticipated by Cha (October 2005, IDS)

Claim 1 is drawn to a method for vitrifying human oocytes comprising placing them on a gold grid and placing directly the grid in slushed or liquid nitrogen. Claim 3 requires treating the oocytes with a cryoprotectant prior to vitrification. Claim 6 adds steps of transferring the vitrified oocytes to a storage

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container and storage of the oocytes. Claims 4 and 8 are drawn to vitrified human oocytes made by the method of claim 1 and 6, respectively.

Cha taught exposing mature human oocytes to 1.5M ethylene glycol and sucrose prior to loading onto a gold electron microscope grid. The grid was plunged into liquid or slush nitrogen and stored in liquid nitrogen until devitrification. The method resulted in the vitrified human oocytes as claimed in claims 4 and 8. Cha taught devitrifying the oocytes prior to ICSI.

Claims 1,4-6 and 8 are rejected under 35 U.S.C. 102(a) as being anticipated by Yoon (October 2005, IDS)

Claim 1 is drawn to a method for vitrifying human oocytes comprising placing them on a gold grid and placing directly the grid in slushed or liquid nitrogen. Claim 6 adds steps of transferring the vitrified oocytes to a storage container and storage of the oocytes. Claims 4 and 8 are drawn to vitrified human oocytes made by the method of claim 1 and 6, respectively.

Yoon taught placing human oocytes onto a gold electron microscope grid. The grid was plunged slush nitrogen. The method resulted in the vitrified human oocytes as claimed in claims 4 and 8. Yoon taught fertilizing the oocytes after vitrification, which, by necessity entails devitrification following a storage period.

Claims 4 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoon (2000; IDS).

Claims 4 and 8 are product by process claims where the process of creating the vitrified oocytes carries little patentable weight. It is only the product, which is anticipated by the prior art and not the process by which the product was made. This is because the final product (vitrified human oocytes) is not distinguished by any particular features or characteristics resulting from the process by which it is made. As such, the limitations of the claimed vitrified human oocytes are met by any vitrified human oocytes in the prior art. Patentability of a product-by-process claim is determined by the novelty and nonobviousness

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of the claimed product itself without consideration of the process for making it which is recited in the claims. *In re Thorpe*, 227 USPQ 964 (Fed. Cir. 1985).

Yoon taught exposing mature human oocytes to cryoprotectant prior to loading onto an electron microscope grid. The grid was plunged into liquid nitrogen and stored in liquid nitrogen until devitrification (paragraphs 3 and 4). The method resulted in the vitrified human oocytes as claimed in claims 4 and 8.

Thus, the teachings of Yoon anticipate the limitations of claims 4 and 8.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,3 and 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoon, 2000; IDS) in view of **US 5,976,567** (published 11/02/1999).

Yoon taught exposing mature human oocytes to cryoprotectant prior to loading onto an electron microscope grid. The grid was plunged into liquid nitrogen and stored in liquid nitrogen until devitrification (paragraphs 3 and 4). The method resulted in the vitrified human oocytes as claimed in claims 4 and 8. Yoon taught devitrifying the oocytes prior to ICSI.

Yoon did not teach use of a gold grid.

However, at the time of filing it was well known to one skilled in the art that electron microscopy grids were made of a number of different materials including copper and gold. Both copper and gold are excellent conductors useful in quick freezing of tissues. For example, '567 taught placing vesicles on a

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gold electron microscopy grid and vitrifying the vesicles by rapid freezing in liquid ethane cooled with liquid nitrogen (col. 40, lines 2-7). Thus, it would have merely been a matter of design choice to the skilled artisan to choose a gold grid from amongst the many well-known choices of grids for use in vitrification.

In *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007), the Supreme Court particularly emphasized “the need for caution in granting a patent based on a combination of elements found in the prior art,” (*Id.* At 1395) and discussed circumstances in which a patent might be determined to be obvious. Importantly, the Supreme Court reaffirmed principles based on its precedent that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” (*Id.* At 1395.) In the instant case, the difference between that claimed and that taught in the art amounts to no more than a simple substitution of one known equivalent for another to obtain predictable results.

### ***Conclusion***

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Valarie Bertoglio whose telephone number is (571) 272-0725. The examiner can normally be reached on Mon-Thurs 5:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Peter Paras can be reached on (571) 272-4517. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Valarie Bertoglio/  
Primary Examiner, Art Unit 1632